CHAPTER FIVE

IMPLEMENTING THE PARADIGM SIEGE

As Vauban aged he sought to assure his legacy of managerial efficiency by passing his knowledge and authority on to his fellow engineers, the only ones who could properly conduct a Vaubanian siege. When it became obvious in late 1703 that his long career of active campaigning was at an end, he turned to recording his ideas for posterity in a more systematic fashion, hence his two major treatises on the attack (1704) and defense (1706). After his death, it would be up to others to continue his legacy. Although his treatises and many mémoires provided a basis for a curriculum, none of the major European powers established formal educational institutions for their engineers till well after the War of the Spanish Succession, and most waited until the middle of the century. This cost-saving measure undermined their group identity and left the efficiency of sieges in doubt.

In spite of all Vauban’s efforts, the French were perpetually short of trained engineers, though their enemies were even more so, while individual technicians varied widely in their abilities and knowledge. Even worse, whether following Vauban’s strictures or not, the most skilled engineers still faced significant hurdles transplanting their ideas onto the ground in front of a fortress. Every chief engineer’s position as siege manager was compromised since he was forced to rely on the goodwill and aptitude of non-engineers to carry out his instructions. When engineers failed to juggle adroitly the many components of the siege apparatus, their attacks deviated significantly from Vauban’s ideal. Managing it efficiently required an authority that overworked engineers did not have.

1. Proto-Professionalism

The first difficulty in implementing any kind of efficient attack was that it required a large number of highly-skilled engineers who knew how to apply Vauban’s maxims to the specific siege at hand—professionally-trained members with an institutional base of support.
Unfortunately for both Bourbon and Allied belligerents, the quality of those available for service varied greatly, for training in a pre-institutionalized age was informal and based on an apprenticeship model. The engineers provided by this informal system failed to supply the numbers needed to fight a major war in several different theaters. The experience and 'good sense' Vauban depended on was a precious commodity, from the start unequally distributed among the engineers and constantly eroded by the casualties of combat.

The uneven quality of engineers made the results of sieges far from certain. Despite Vauban’s attempts at rationalizing his craft, the institutional foundations that would assure his offensive legacy would not be established until later in the 18th century. Nor did Louis XIV’s peers seek to assure institutional continuity for their engineering corps before the siècle des lumières was in full swing. Many countries had long-established schools for pages and young noblemen, but these dedicated only a small part of their curriculum to the technical details of the engineer’s craft—especially drafting and geometry. Most engineers of the early 18th century continued to learn their basic geometry from a relative, from Jesuit schools, from individual study, or from tutors in a field camp or garrison. The particulars of their craft were learned by watching and doing rather than by following a standardized, formal course of study in an academic setting intended to inculcate uniform tactical doctrine.

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3 For one Frenchman’s brief account of his initial mathematical education as a cadet in a garrison town, see Anne-Marie Cocula (ed.), Mémoires de Monsieur de La Colonie: maréchal de camp des armées de l’Electeur de Bavière, (Paris, 1992), pp. 51–52.

4 On the generally rudimentary level of military education in all services, see Lynn, Giant, p. 269. Parrott also argues that such early military academies were largely worthless. Richelieu’s Army, p. 39. See also the brief summary in Christopher Storrs and H.M. Scott, “The Military Revolution and the European Nobility, c. 1600–1800,” War in History, 3 (1996), 23–24. For an argument that institutions were not absolutely critical to technical expertise, see Lund, War for the Every Day, pp. 102–103.